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News of the Week

ENGINEERING NEWS-RECORD • AUGUST 14, 1947 • VOLUME 139 • NUMBER 7

Bids to be called soon for start on Garrison Dam

Details of construction program revealed at prebidding conferences between Army Engineers and contractors at Bismarck, N. D.

Excavation of two holes approaching Mesabi Range open-pit mines in size, driving 54½ miles of steel sheetpiles for cutoff walls, placing 7 million yards of embankment in the main dam, and driving a 37-ft. test tunnel 300 ft. long will be the principal items in building the first stage of Garrison rolled-fill dam on the Missouri River in North Dakota.

Bids for this work, which also includes stripping, clearing, trenching, lignite salvage and miscellaneous drainage, will probably be advertised sometime this month and opened in September by the Corps of Engineers.

Details of the project were outlined at conferences set up for interested bidders by Col. W. W. Wanamaker, U. S. District Engineer, Garrison District, Bismarck, N. D., the week of July 21. Contractors were briefed at district headquarters, taken out over the site 80 miles upstream from Bismarck, and then questioned as to changes or suggestions in construction procedure. While conference invitations were issued to all contractors the engineers thought might be interested in the project, bidding will not be confined to this list.

Biggest job in the first-stage work will be excavation for the intake and powerhouse areas, totaling nearly 6,000,000 cu.yd. These holes are both located in the west, or right, abutment of the dam. Starting with a top area 1,300x1,400 ft. and bottoming out at 550x700 ft. at 195-ft. maximum depth, the intake area will require 2,700,000 cu.yd. excavation. Another 3,000,000 cu.yd. will come out of the powerhouse area, which varies from 520x830 ft. at the bottom to 900x1,200 ft. at the top, with a maximum depth of 185 ft.

Except for some sandy loam at the surface, excavation for these holes will be in Ft. Union formation—a well-consolidated clay and silt, fairly hard and containing seams of limestone, sand and lignite. At the bottom and about 20 ft. above are two water-bearing lignite seams from 4 to 6 ft. thick. Considerable inflow of water is expected in both holes, and a separate bid item is set up for pumping. Low spots on the rims of both holes will reduce the pumping head in each to about 100 ft.

Intake plans changed

An alternate bid will be taken for excavating a narrow drainage channel, along the line of the permanent outlet channel, from the powerhouse to the river, about 400,000 cu.yd. If this channel is dug, it will reduce the pump head in the powerhouse area to 30 ft. Provision is also being made for grouting the lignite, with the chance that most of the inflow can be sealed off.

Original plans for cut-and-cover conduits between intake towers and powerhouse have been changed to seven 37-ft. dia. tunnels (30-ft. finished) 1,100 ft. long. These tunnels will lie directly under the extreme west end of the embankment, driven through Ft. Union formation with the inverts in the lower lignite seam mentioned above. To determine the stresses on the tunnel lining, a 300-ft. full-section test tunnel along the line of the center tunnel will be included in the first stage contract.

Several types of lining will be placed in the test tunnel.

The test tunnel is the most critical item in the program, for it must be completed in 210 calendar days. Tentative plans show a 7x9-ft. timbered access drift, driven at the center of the invert of the big tunnel from the bottom of the powerhouse excavation. This means that at least 750,000 cu.yd. of excavation must be removed before the portal of the access tunnel can be reached. Also, the plans show an abrupt enlargement from the back end of the drift to full tunnel size. At the suggestion of several contractors who viewed the site, the engineers will probably permit the contractor to approach the full section according to his own idea. Raising the roof of the drift to reach the main tunnel at crown level, or a shaft access are possible alternates.

(*Continued on page* 14)

Large dam is started on So. Saskatchewan River

An earth-filled dam—part of a $66,000,000 power and irrigation project is now under construction 18 miles upstream from Outlook on the South Saskatchewan River in Saskatchewan, Canada.

Report on the investigation for a suitable dam site in the river development, which would create a reservoir with a total storage capacity of 6,765,000 ac. ft., was compiled by G. L. Mackenzie, chief engineer, and concurred in by Maj. Gen. H. B. Ferguson, American consulting engineer. The project will require about 12 years to complete.

The plan provides for the ultimate installation of 119,500 h.p. of hydraulic turbines.

Final contract let for Salt Lake City aqueduct

A $1,620,884 contract for completion of the Salt Lake aqueduct has been let to United Concrete Pipe Co., Los Angeles, Calif., by the Metropolitan water board of Salt Lake City.

The contract calls for the installation of 7½ mi. of 69-in. concrete pipe from the end of a formerly laid pipeline near the mouth of Little Cottonwood Canyon to the Park reservoir, east of Salt Lake City. The fully-completed line will be 41 mi. long and will carry water from the Provo River in Provo Canyon to Salt Lake City for culinary use. The water will be picked up at a pumping station in the mouth of the canyon, raised several hundred feet and then flow by gravity approximately 40 mi.

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Highways—Property is being acquired at *Seattle, Wash.*, to start extension of W. Marginal Way from 1st Ave. S to the south city limits. A bascule-type bridge will be built over the Duwamish River . . . Work on the $35,500,000 superhighway through *Jacksonville, Fla.*, may begin in less than a year, according to the local officials . . . The State highway department of *Indiana* has listed 1,200 out of its 3,162 highway bridges as "definitely hazardous" . . . In *Virginia*, bridge building by the state highway department is on the upswing in the number of bridges built, the average length of structures and the cost. Contracts for 56 bridges have been awarded this fiscal year . . .$8,000,000 in bond issues has been approved by the *South Carolina* State Highway Commission to finance road construction . . . *Oregon* has appropriated $100,000 for a study of the state's highway system and its needs . . . A through highway to Texas is proposed for southwest *Louisiana* . . . Chief Engineer E. L. Schmidt of the *Pennsylvania* Department of Highways says the department hopes to place about $80,000,000 worth of road improvements under contract this year . . . *Kentucky* made 151 contracts for improving 1,662 miles of roads during the first half of this year, the cost totalling $13,182,586.

Water supply and sewers—The state sanitary water board of Illinois has approved plans for new or improved water systems in *Cambria, Nauvoo, Normal, East St. Louis, Neponset, Creal Springs, Wayne City, Tolono* and *Riverside* . . . *Spokane, Wash.*, has sold $1,700,000 of sewage disposal bonds for construction of interception sewers, and the city has plans for $2,000,000 of capital improvements by the water division in 1943 . . . Common council of *Detroit, Mich.*, has ordered a 2-year reduction in completion time on the projected $30,000,000 storm sewer program . . . Work will start at once on the Ohio Water Service Co.'s $1,000,000 reservoir on Little Yellow Creek, near *Youngstown, Ohio*, after award of contracts to Herman Holmes of Crystal Springs, Mich. . . . Plans and specifications are ready for the proposed $125,000 interceptor sewer for *Decatur, Ind.* . . . Rollin F. MacDowell, Cleveland sanitary engineer, reports that *Bellevue, Ohio*, needs a complete sanitary and storm sewer system to cost $1,334,984 . . . The 10 mgd. water supply of the *Endicott, N. Y.*, area will be doubled by a single new well within a year . . . Construction of $4,500,000 worth of new trunk sewers is recommended as the first step in improvements required in the outlying sections of *Akron, Ohio* . . . Michigan Municipal Financial Commission has granted *Hazel Park* permission to issue $392,000 in bonds for a sewage disposal system. The *Fort Wayne, Ind.*, Board of Works has announced the acceptance of bids for construction of a huge system of sewers in the northwest section of the city to be known as the Oakland St. Relief Sewer . . . The Illinois State Department of Public Works and Buildings will erect a $215,000 experimental hydraulic laboratory in *Peoria, Ill.*, whose primary purpose will be to infiltrate water from the Illinois River into the basic water levels of the city, which are being drained for domestic consumption, and especially for industrial purposes, of 80 to 100 mgd.

Construction — The *Washington* state Board of Education has allocated $20,000,000 to 62 school districts to help build schools in next two years . . . Expansion of the Arlington Hotel, *Binghamton, N. Y.*, at a cost of $1,000,000 will add 100 rooms . . . *Allen County, Ind., has* appropriated $100,000 for preliminary work on the proposed county war memorial coliseum near *Fort Wayne.* . . . A $750,000 physical education building will be built at Penn State College, *State College, Pa.* . . . $650,000 has been raised in a drive for a new building for the hospital at *Clearfield, Pa.* . . . Construction of a $2,000,000 hotel will start soon at *Del Monte, Calif.* . . . Loyola College, *Baltimore, Md.*, has embarked on a $1,000,000 building program . . . The Province of Quebec has let a contract for a 500-bed hospital at De[illegible] Boulevard and Cote St. Luke [illegible] *Montreal* . . . An appropriation of $1,000,000 for the improvement of county prisons has been made at *Philadelphia, Pa.* . . . A $1,500,000 tungsten filamont factory will be built at *Little Rock, Ark.*, for the Westinghouse Electric Corp.

Housing—John D. Townsend, Jr., is building 100 homes at a cost of $1,000,000 in the Glen Cove addition at *Houston, Tex., while* in the next year 145 houses will be built in the Santa Rosa addition in same city by R. C. Heiner . . . *Compton, Calif.*, has approved a $2,000,000 development to include 187 apartment units, a medical center, business section, church and clubhouse . . . Daniel I. Glossbrenner, Sr., of Oaklandon Homes, Inc., has announced development of a new $250,555 subdivision of 22 homes north of Indian Lake near *Indianapolis, Ind.* . . . The total number of new homes announced for construction in a recent week at *Syracuse, N. Y.*, was 952 . . . New Housing, Inc., proposes a 12-story $1,250,000 apartment building at *Seattle, Wash.* . . . The *Baldwinsville, N. Y.*, Realty Corp., plans to build 90 homes in that village . . . The last section of a city-wide $2,500,000 emergency housing project is nearly done at *Indianapolis, Ind.* . . . Plans for a 350-unit $3,000,000 apartment house project have been announced in *Phoenix, Ariz.* The project, largest of its kind in the state, will be built by a local corporation headed by Del E. Webb, president . . .

MAJOR MEETINGS

Associated General Contractors of America, Inc., fall meeting, Savery Hotel, Des Moines, Iowa, Sept. 28-Oct. 1.

Institute of Traffic Engineers, 18th annual meeting, Hotel Fort Shelby, Detroit, Mich., Oct. 1-4.

American Society of Civil Engineers, fall meeting, Roosevelt Hotel, Jacksonville, Fla., Oct. 13-17.

American Welding Society, annual meeting, Sherman Hotel, Chicago, Ill., Oct. 20-24.

Engineers' Council for Professional Development, 15th annual meeting, Mount Royal Hotel, Montreal, Canada, Oct. 24-25.

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WASHO seeks more federal funds

Continuation of federal appropriation of a half-billion dollars each year for the years 1949, 1950 and 1951 to aid the states in filling the war-caused gap in their highway programs was urged by members of the Western Association of State Highway Officials at their annual meeting in Missoula, Mont., last week.

A resolution approved by delegates urged that the Federal Aid Highway Act of 1944—which provided $500,000,000 a year of federal aid for the years 1946, 1947 and 1948—be extended to cover the three years to 1951. The resolution pointed out that under the 1944 act the states were able to plan and program their work in advance and that the actual funds have been spent soon after they became available.

The action was one of several approved by the 175 registrants, who heard papers delivered by their own members and by officers of national organizations during their three-day meeting.

Among the speakers was William A. Danner, president of the Associated Equipment Distributors, who reviewed manufacturers' plans for extending their service to purchasers, and gave details of two new machines for street and highway use. One of these, now available, Mr. Danner said, is a truck-mounted suction-type leaf gatherer, and the other (in the testing stage) is a vibrating machine for stabilizing fills.

Contractors ready for work

A survey of its highway chapters by the Associated General Contractors indicates that in most states contractors now have the capacity to undertake additional work, H. E. Foreman, AGC managing director, told the group. Pointing to this added capacity and to his statement that highway costs in general have levelled off, Mr. Foreman urged the highway officials to undertake accelerated progress as quickly as possible. "Contractors can only maintain efficiency—and thus reduce costs—by keeping busy," Mr. Foreman said.

Hal. H. Hale, executive secretary of the American Association of State Highway Officials, urged the formation of well organized, efficient public relations divisions in all state highway departments to tell the department's story "first, forcefully, and fully." "Too often, highway officials find themselves in the position of defending their work weakly against unfair and unwarrented criticism," he said.

Lagging road programs

Citing his own state as an example of the forces interfering with the successful prosecution of large highway construction programs, W. L. Anderson, Utah's assistant chief engineer pointed out that the main factor in the delay is lack of trained engineers.

Only 40 percent of the prewar total of field engineers was available in Utah at the start of the postwar program, Mr. Anderson added. "A second factor is high costs—the federal appropriation will do only two thirds of the work planned, since the highway dollar has declined in purchasing power," he said.

California representatives, in discussions, pointed out that their state still needs 300 engineers to carry out its programs.

Officers and resolutions

Resolutions adopted included: A plea to Congress to make available the unappropriated portion of the $75,000,000,000 forest highway fund approved in 1944, and another asking the Civil Aeronautics Board to disapprove airports so constructed that planes fly at an altitude of less than 50 ft. over highways and streets.

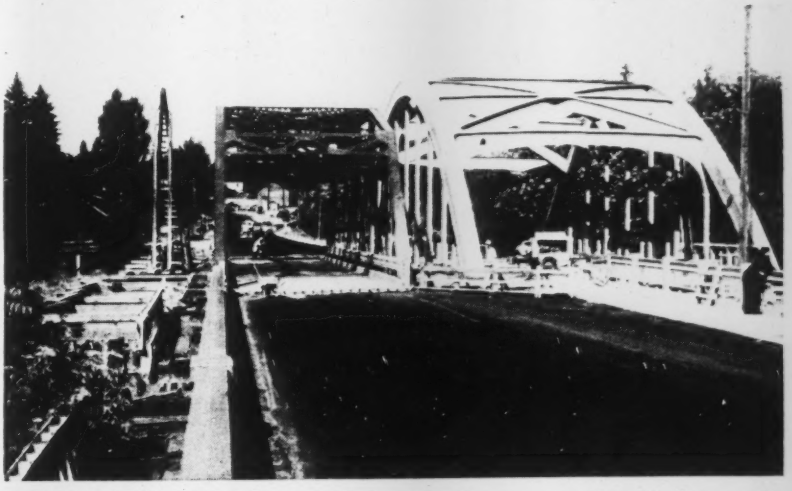
Tom W. Holman, chairman of the Washington State Highway Advisory Commission, was elected president for the coming year. W. C. Lefebvre, Arizona state highway engineer, was named vice-president; and E. V. Miller, Arizona state highway planning engineer and J. R. Bromley, Wyoming highway department superintendent, were reelected secretary-treasurer and executive committee member, respectively.

CAA proposes building 250 bases for seaplanes

Urging the establishment of some 250 major seaplane bases throughout the United States, the Civil Aeronautics Administration recently disclosed a goal of seaplane bases located so that at least one major facility would be available to cross-country seaplane pilots approximately every 125 miles. Each such facility would at the same time serve local flying within a radius of 65 miles.

"Such a program is aimed at elimination of the biggest stumbling-block to the growth of seaplane flying," the CAA officials said. "Now, except for certain highly-developed regions such as the Atlantic Coast, seaplane pilots have few places to go where they can obtain adequate service. Of course, they can land on any suitable body of water—and there are literally thousands of them—but the main difficulty is in getting adequate service and anchorage."

The Federal Airport Act provides for federal assistance in development of seaplane bases and calls for a fifty-fifty sharing of costs by the federal government and the local government or municipalities.



***Bottleneck Broken**—Oregon highway engineers recently rolled away the old bridge across the Pudding River at Aurora (at left) and rolled into its place the new and wider steel span at right. The new bridge was erected on temporary piling alongside the old structure. The old bridge, 120 ft. long, 20 ft. wide and weighing 190 tons, was then cut loose, raised 15 in. and placed on rollers to be removed as the new bridge was rolled into its place. The old bridge is to be moved 12 miles downstream and re-erected at another site.*

Not a dam spillway *but a wind break, under construction in Le Havre harbor as a protection for ships under repair. Forms for the top tier of the 70 ft. high structure are being erected in the background.*

EUROPEAN NOTEBOOK . . . .

Hope Resides in Coal and Reconstruction

By WALDO G. BOWMAN

New York, N. Y.—What Europe needs more than anything else is improved physical wellbeing. After two months of continuous travel and intensive observation there, this admittedly is not a startling conclusion, nor, perhaps, a particularly sage one, yet it appears to be the most significant general summary that can be made.

Part of its significance rests in the fact that we have in the past expended too much time and energy in attempting to change Germany's thoughts and manners, when the physical wellbeing of the people was so low that they were unable or unwilling to absorb new ideas.

It is significant, too, that the amount of food we have supplied has served only to keep the people alive, without improving their physical stamina to the point where they could expend much energy on productive work.

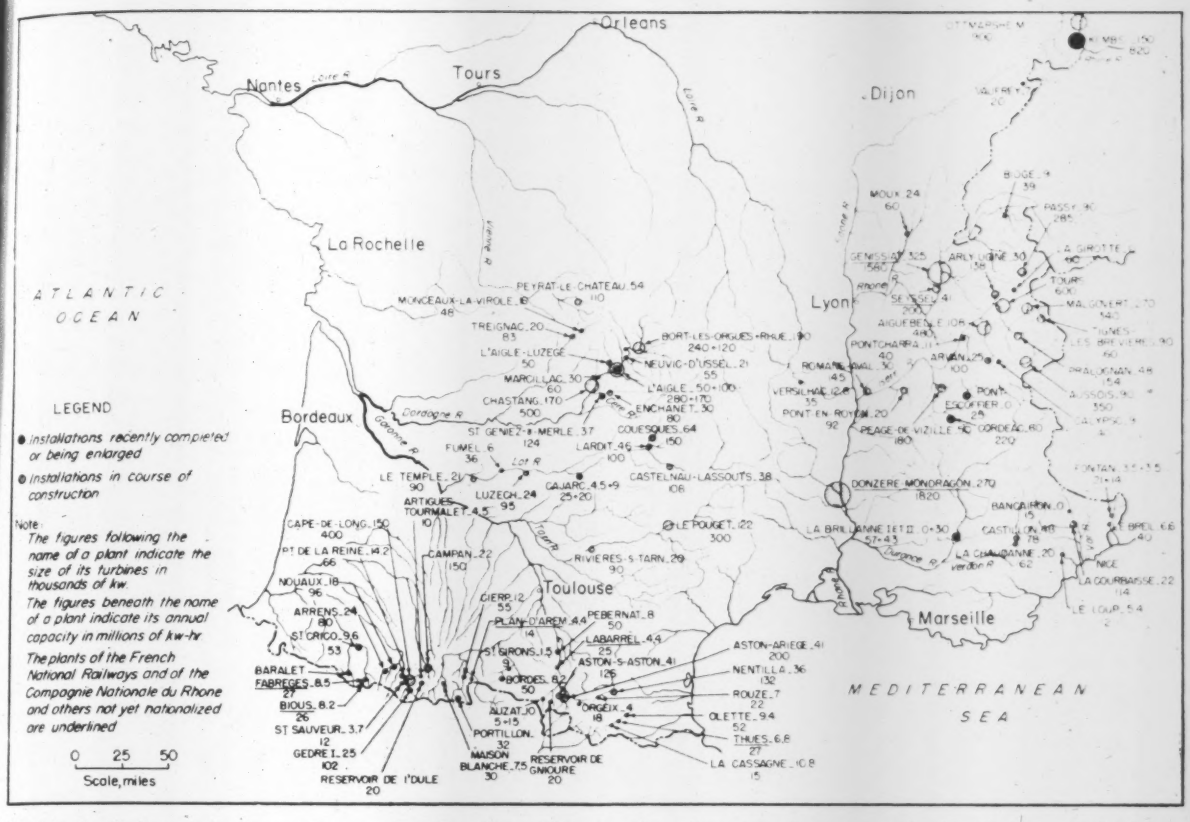
Fundamentally, because of fear of violating the Potsdam agreement, or displeasing Russia, we have not given our Military Government officials the authority to take positive action on the economic rehabilitation of Germany, a step which General Lucius D. Clay and his chief political and economic advisers, Ambassador Robert Murphy and Maj. Gen. William H. Draper, have urged from the beginning. It is, therefore, significant that Secretary Marshall's suggestion to the European countries for collective action to help themselves, as a preliminary to further U.S. aid, is concerned almost solely with physical wellbeing.

Thus we have come to a turning point in our European policy which recognizes faster reconstruction and increased production as the only vital short-term objectives. Russia can come in or stay out of such a program, as she chooses. Germany will have to be included, because without all of her coal and at least some of her industry other Western European countries are handicapped in recovery. The significance of this new policy to engineers and construction men is obvious.

In looking first hand at the reconstruction progress made in Western Europe since the end of the war, a visitor would be impressed with two facts—France and the Low Countries have done much better than most reports reaching this country would indicate; Germany and Austria are every bit as bad as they have been painted. Previous articles in this series have given some indication that this was the case. In this windup piece of incidental information not previously reported, there is more evidence of this same fact, and several major technical articles yet to be published on Rhine River rehabilitation, France's Genessiat Dam, and harbor and bridge rehabilitation in France will add to the record.

The outstanding postwar activity in France is in the hydro power field. Begun before the war to reduce the country's reliance on imported coal, a large program of dam building is being pushed with all the vigor that shortages of men and materials will permit. The accompanying map spots the location and sizes of projects actually under construction and scheduled for completion within five years. Those planned for future construction are twice as numerous.

Since the postwar nationalization of electric power in France, all private dam building has ceased. The public agency that has taken over operation of


Orleans
Nantes
Tours
Dijon
La Rochelle
ATLANTIC OCEAN
Lyon
Bordeaux
Toulouse
Marseille
MEDITERRANEAN SEA
LEGEND
Installations recently completed or being enlarged
Installations in course of construction
Note:
The figures following the name of a plant indicate the size of its turbines in thousands of kw.
The figures beneath the name of a plant indicate its annual capacity in millions of kw-hr.
The plants of the French National Railways and of the Compagnie Nationale du Rhone and others not yet nationalized are underlined
0 25 50
Scale, miles

***Hydroelectric projects** under construction in southern and southeastern France emphasize that country's determination to reduce its dependence on imported coal.*

the existing hydro and steam plants, and the responsibility for most of the new dam building, is Electricite de France, but two other agencies are still eligible for such work, the S.N.C.F. (French National Railways) and the C.N.R. (Compagnie Nationale du Rhone). The C.N.R., as a matter of fact, has a 2,226,000 kw. program laid out, of which three projects of 760,000 kw. total capacity are actually under construction on the Rhone—Donzere-Mondragon (250,000 kw.), described in a previous section of this series; Genissiat (470,000 kw. and the largest in Europe, excepting Russia's Dnieperstroy), to be covered in a future article; and Seyessel (40,000 kw.). There has been some talk of Electricité de France being given control of all power in France, but for the present both it and C.N.P. are sticking to their respective knitting.

Genissiat is a dam job that any country could be proud of. Highly mechanized from aggregate production to concrete placing, it is moving toward a December completion date at a 1,200 cu. yd. a day clip. Largest 24-hr. run has been 3,500 cu. yd. Mixing plant, cableways and buckets are adequate for a sustained capacity of 3,000 cu. yd. daily, but slowness in moving forms keeps actual output far below that. M. Jannez, the construction superintendent, who talks and operates like good superintendents everywhere, says the American construction industry should tackle and lick this form moving problem if it wants to make a real contribution to speedier mechanized dam building.

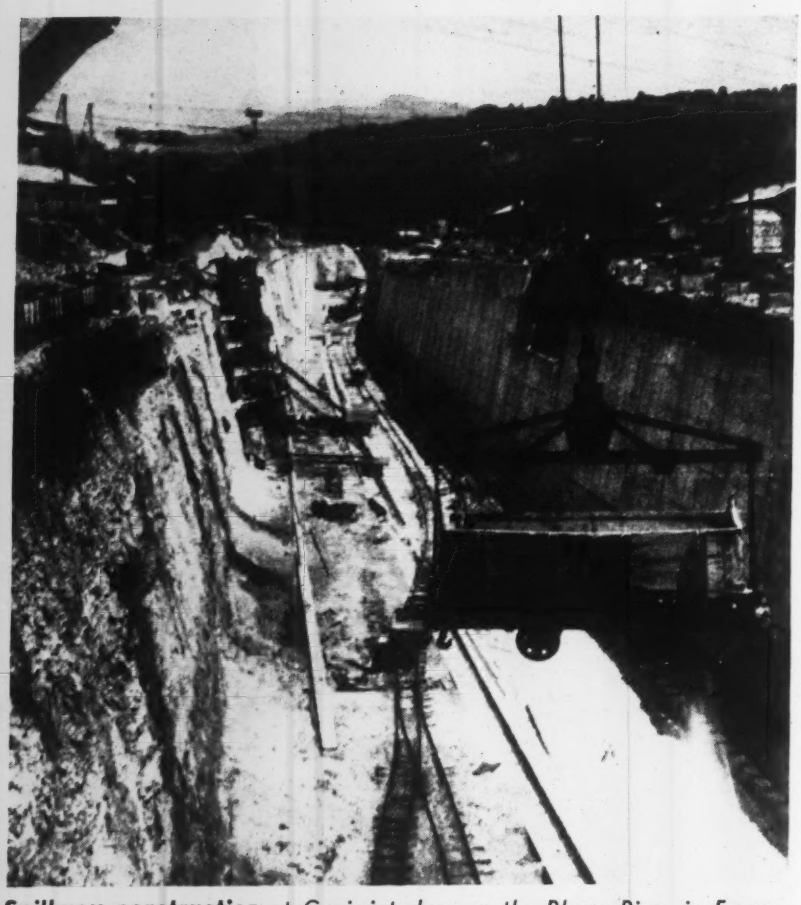
Genissiat is being built for 5 francs per kwh., which Raymond Giguet, general manager of C.N.R., P. Delattre, technical director, and M. Gres, engineer at the dam, believe is about one-third of U.S. costs. If the open market rate of about 1⅓c. for the franc is used, this is 1⅔c. per kwh., which is very low by our scales.

The principal reason suggested for the low cost is that common labor gets 40 francs an hour and skilled, 80 francs. Even at the official exchange rate of 0.0084c., these rates are only 34 and 68 cents per hour.

The French are going in for prestressed concrete bridges in a big way. The principal reason is said to be the large saving in steel possible through the use of high strength wire reinforcement. Concrete testing about 6,000 psi. at 90 days is specified. About 20 such bridges are under construction, and designs are ready for 20 more, which await money and materials. Some of the bridge girders are prefabricated, others are built in place. The longest single span is in the Luzancy Bridge over the Marne, which measures 181 ft.

The contribution that U.S. surplus army construction equipment is making to European reconstruction must be substantial, judging from the amount of it that is met being hauled over the roads. It is said to be necessary to buy three machines to be sure of enough unworn parts to make one good one, but even at that rate it is a bargain. Moreover, the resulting mechanization of construction should create customers for new machines.

Port improvement in France is a high priority activity because of the country's pride in and dependence on its maritime business. At Le Havre, Cherbourg and Marseilles, particularly, the facilities built by our Army Engineers are being used to good advantage. Although constructed in a hurry as temporary structures, the piers are in surprisingly good condition. The French port engineers count on using them for a number of years yet.



***Spillway construction** at Genissiat dam on the Rhone River in France. Excepting Russia's Dnieperstroy, this will be the largest hydro project in Europe its ultimate capacity totaling 470,000 kw.*

The most unusual new construction at a French port will be encountered at Le Havre. What appears from one side to be a reinforced concrete building frame, and from the other a dam spillway, is in reality a wind break. In the lee of this novel structure ships under repair will be tied up to protect them from the high south winds that, last February, caused the Europa (renamed the Liberté by the French) to break her moorings, stave a hole in her bottom and sink. Some 70 ft. high and 800 ft. long, the three-story structure is heavily built, and all footings are tied together by beams below the first floor.

The wind surface consists of an ogee curve slab interrupted every 65 ft. by a 25-ft. opening, or vent, from the ground to the third floor, to eliminate the possibility of suction on the lee side. Being built with unusual speed and using materials and manpower badly needed elsewhere, the structure reflects the chagrin of the French over the sinking of the Europa, as well as their determination to prevent any similar accident in the future.

Engineers who remember the fish-belly trusses of about 75 ft. span in the causeways of the floating harbors used in the Normandy landings would be surprised at their widespread postwar use. E. Beltremieux, bridge engineer of the Ministry of Public Works, arranged for the purchase of 183 of these spans in the British installation at Arromanches. He used them first in rebuilding some 50 different bridges over all the main rivers of France. Nine of these 30-ton spans were utilized in the Neuf Brisach bridge over the Rhine, 12 in the Metz bridge over the Moselle, and 10 in the Pont le Cé over the Loire. As more permanent structures replace these bridges, the floating harbor spans are being transferred to permanent duty on secondary roads, where their narrow width is not a serious disadvantage.

Superhighways are not for France. Unlike the Germans, the French had a good road system to start with; also they have no military purpose, as did the Germans, in building excess road capacity. Only two superhighways are planned: Paris to Versailles, of which about one-half, including the St. Cloud Tunnel, is finished; and Paris-Lille, not yet begun. The French have another system of main roads that they consider more important. They are called national economic routes and they run between Paris-Lyon; Paris-Bordeaux; Paris-Strasbourg; and Calais-Vitry-le-Francois. These four routes, with connecting arteries, pretty well blanket the country. They are being developed progressively by eliminating grade crossings and widening and resurfacing. Their width is 23 ft. in the country, 30 ft. near towns, and somewhat wider in the vicinity of the few big cities.

French roads and public works, of course, have a proud history behind them. This was emphasized on June 20 in Paris, when the National School of Bridges and Roads (Ponts et Chaussees) celebrated the 200th anniversary of its founding. The ceremonies were held in the beautiful Museum of Public Works, at 1 Ave. d'Iena, a place that every engineer visitor to France should see. Completed just before the war, it it is a three-story concrete building of modernistic design, entirely devoted to exhibits that include models of famous bridges, locks, dams, harbors, highways and industrial plants; maps, manuscripts and books; old engineering instruments and the like. An exhibit devoted to the works of Jean Perronet, founder of the Ecole des Ponts et Chaussees, and often called the "father of modern bridgebuilding", received special attention during the recent celebration. One could not help but wish for the establishment of a similar "Louvre" for engineering works in the United States.

Reconstruction in Germany and Austria, in contrast to France, has made hardly a dent in correcting war's devastation. Berlin, Nurnberg, Munich, Stuttgart, Frankfort, Dusseldorf, Essen, all present the same picture—rubble being slowly cleared away, individual property owners repairing damaged walls and roofs, a few churches, factories and public buildings being put into serviceable condition, piecemeal. Projects of any size, such as those relating to sanitation and water supply, bridge reconstruction, railway rehabilitation and the like, all have some bearing on the necessities of the occupying powers. With money worthless except for food rations, and food scarce, there is little incentive to work, let alone to work for the future.

Germany's condition would not be of such concern were it not for two facts: parts of her industry and all of her coal are vital to Western Europe's recovery; and her return to self-support offers the

only chance for us to reduce our occupation costs.

Increasing coal production is the key to solution of the German problem. It in turn depends upon food, stable money and a lot of other things, but it also hinges on housing. More miners are available, but they can't be moved into the rubble-piled Ruhr unless housing is provided. So far (and largely because of lack of coal) materials for the housing could not be manufactured. This vicious circle should have more chance of being broken, now that the economic merging of the British and U.S. occupation zones has been effected.

Once coal is mined, at even the rate set for the present agreed upon "level-of-industry", transportation could readily appear as a bottleneck. It might be in the Ruhr itself, in bus, streetcar or rail transport, and it almost certainly would be encountered on the Rhine in water transport. At present, one-way barge traffic is necessary at a number of points because of debris in the river or too-small bridge openings. And Rhine traffic now is at only about one-eighth prewar volume.

U.S.-built military bridges at Mainz and Mannheim are among these bottlenecks. Designs for replacement structures with 300-ft. navigation spans as against the present 165 ft., have been made by our Army Engineers with the cooperation of German firms, but so far it has been impossible to get a steel allocation for their construction. They would require 16 months to build.

A similar bottleneck on the Rhine exists in the British Zone at Dusseldorf, where the Royal Engineers built an amazing floating Bailey bridge. About 980 ft. of its 2,391 ft. total length is on floats, the spans resting on towers that provide a vertical shipping clearance of about 27 ft. The horizontal clearance in the navigation span is about 100 ft. One thing good that can be said about the inadequate shipping clearances of this bridge is that they are seasonal; during floods the entire bridge is towed away to a safe harbor.

The autobahns and the damage that they suffered do not figure prominently in the reconstruction needs of Germany. These express highways were developed far beyond any economic justification, and in only a few instances has our military government permitted reconstruction of the bridges necesssary to return a route to service. Five structures on the Karlsruhe-Stuttgart autobahn, for example, were rebuilt by the Germans with the aid of the 333rd Engineer Special Service Regiment, largely because the U.S. Constabulary could use this route effectively.

A good many autobahn pavements end out in the country, where war stopped construction. It is difficult to estimate how nearly completed the system was, but one set of statistics shows that 5,519 bridges were completed and 1,819 were under construction at the beginning of the war. Certain it is that many of the completed bridges, and all of those of any size, are now destroyed, for the Germans used the demolition chambers in the piers with great thoroughness.

***Headworks** at one of the shafts of the Zollverein mines at Gelsenkirchen in the Ruhr symbolize the key to European recovery—coal. Even in this undamaged and modern mine, less than half of the 1938 daily tonnage per miner is now being produced, according to reports.*

River pollution was one thing that improved in Germany with the end of the war. This was automatic with the shutdown of war industry which had dumped its wastes recklessly without treatment. When industry was at high production, these wastes had caused concern, and the government had ordered a higher degree of purification for city sewage as a palliative. As a result, some new sewage plants were built, involving trickling filters or activated sludge treatment, but in general the Germans still have a big sanitation job ahead of them.

A word about Austria can appropriately conclude this final summary, since she is much like Germany as to lack of reconstruction progress, yet as with France she is doing some planning for the future. As with France, too, this planning is most evident in the hydro power field. Most spectacular job is the Kaprun project on a tributary of the Salzach River in the shadow of Gross Glockner, highest of Austrian Alpine peaks.

Conceived many years ago by the Austrians, work was begun on the project by the Germans in 1939. Requiring a high dam and reservoir, and a 4-mile tunnel ending in four penstocks with a 2,500-ft. drop to a power plant, the Germans practically completed all but the dam and two of the penstocks. The dam had barely been begun, but by a temporary cofferdam they were able to impound enough water to run a 15,000 kw. unit, and so tell Hitler that Kaprun was operating within the 3-year period that he had ordered. They did install two of the 45,000 kw. turbines, however, for which the Austrians are duly grateful.

At the present time grouting of the reservoir area is under way as is assembling of equipment for construction of the dam. Additional elements of the project are also being planned, which in total will reduce Austria's need for imported coal by as much as 20 percent according to estimates of those familiar with the situation.

HIGHLIGHTS OF MUNICIPAL DEVELOPMENTS

Summarizing current activities in city engineering and construction throughout the country.

Chicago gets approval for work on Douglas Airport—Pennsylvania court affirms cities' right to rebuild slum areas—Honolulu debates location of traffic tunnel—Omaha, Council Bluffs discuss joint planning—Other municipal affairs

First concrete evidence of adoption by the Civil Aeronautics Administration of a 7,000-ft. sea-level length for runways at the largest commercial airports, serving international air transportation, is contained in a letter of July 25 from T. P. Wright, administrator of civil aeronautics, to Ralph H. Burke, airport consultant for Chicago.

The letter approves for the Douglas (Chicago Orchard) airport a preliminary plan which proposes a tangential pattern of ten runways each with a clear paved length of 7,000-ft. It is understood that about 190 ft. added to this length would take care of the thinner atmosphere at the altitude of Chicago, and the runways as built would be about 7,190 ft. long.

Difference of opinion regarding the length of runways has been the greatest single factor delaying crystallization of plans for the Douglas airport. As reported in *ENR* May 15, 1947, vol. p. 797, Chicago, through its airport consultant, requested the CAA to consider adoption of uniform standards for passenger-cargo airports of the largest size, suggesting 7,000 ft. for runway length at sea level and 200,000 lb. for gross airplane loading. On May 12, CAA Administrator Wright sent to aircraft manufacturers, airline operators and city airport officials copies of a proposed technical order to standardize the size of airports in the United States. For airports in the international class, this proposed order stipulated a runway length of 7,000 ft. and maximum pavement loadings 60,000 lb. under single wheels and 80,000 lb. under dual wheels.

Previously two plans for Douglas airport had been submitted to the CAA by Chicago. Plan No. 1 proposed twelve runways with a paved length of 6,000 ft. arranged tangentially around a central terminal area. Plan No. 2 was generally similar in pattern and number of runways, but the runway length was increased to 8,000 ft. Plans now approved for the airport by CAA are designed to handle 360 plane movements per hour by simultaneous use of six runways, three on and three off.

With approval of the basic plan by the CAA the city can now go ahead with detailed plans and acquisition of property. The field was ceded to the city by the War Assets Administration. It will be expanded by acquisition of about 5,400 acres to make a tract of about 6,500 acres for the super-airport. Preliminary estimates of about $75,000,000 for the completely-developed project have been reviewed in a general way by CAA and seem to be consistent with the scope of the proposed improvement. Chicago now has $14,000,000 available for Douglas airport from a $15,000,000 airport improvement bond issue voted in 1945.

Slum reconstruction

In a far-reaching decision that will affect plans of many Pennsylvania cities, the state Supreme Court last week had upheld the right of the City of Philadelphia's Redevelopment Authority to order the clearing and rebuilding of slum areas.

Earle N. Barber, chairman of the Redevelopment Authority, said the decision cleared the way for a wide program of city improvements which include the reconstruction of "substandard" areas both as housing and industrial areas.

In reality a test of the state's new Urban Redevelopment Law (adopted in 1945), the court decision affirms the power of a redevelopment authority to order the rehabilitation of any area in the city certified as "blighted" by the City Planning Commission. The law provides that such clearance and reconstruction need not be exclusively for housing, but may also include industrial establishments. The court also upheld a provision empowering the authority to turn over condemned property to private builders for reconstruction. "When . . . the need for public ownership has terminated, it is proper that the land be transferred to private ownership, subject to such restrictions as may be necessary to effectuate the purpose of the act," the majority opinion said.

***No Traffic Interruption**—Engineers for the San Diego, Calif., Gas and Electric Co. solved the problem of laying 100 ft. of gas main across a busy intersection without disrupting traffic by developing a special drill and jacking the pipe underground. The 5-ft. drill, powered by a compressed-air motor, took successive 3-ft. bites of earth, then was removed while the pipe was jacked into the hole. Then the drill was inserted through the pipe for another "bite".*

Parking, road problems

The longtime battle in Honolulu, T. H., over location of a proposed traffic tunnel through the Koolau Mountains to serve windward Oahu residents appeared to be most interesting of a long list of plans and projects reported by cities in their search for means of easing traffic congestion.

The Hawaii legislature approved issuance of $9,400,000 in revenue bonds to finance a tunnel via the Kalihi Valley, and the city government has already invested some $50,000 in preliminary engineering studies of the Kalihi route. Last week, however, Honolulu's bid for a $300,000 FWA grant to prepare detailed plans for the tunnel was disapproved. Meanwhile, the territorial public works department is backing a proposal for a tunnel in the Nuuanl Valley—about two miles south of the Kalihi location—where the present over-mountain highway is located. The routes would save more than four miles of travel for residents of the windward suburbs of Honolulu.

In the continental United States, meanwhile, city officials continued to wrestle with traffic congestion and parking problems.

At St. Louis, Mo., plans were revealed for a new vehicle and pedestrian

toll bridge, to cost between $4,000,000 and $5,000,000 and to be located about 800 ft. upstream from the Eads Bridge. Plans and specifications are being prepared by G. A. Maney and Associates, of Northwestern University. The structure would be the sixth of its type across the Mississippi River in the St. Louis area.

Steps to ease business-district parking problems reported included: The appointment of Rufus H. Fitzgerald, chancellor of the University of Pittsburgh, as chairman of the Pittsburgh, Pa., Parking Authority which will oversee expenditure of up to $35,000,000 to supply adequate parking spaces; passage of a new city ordinance at Detroit, Mich., requiring all future stores, hotels, apartments and public buildings to include adequate off-street parking facilities; the development of what is believed to be a satisfactory method of financing construction of four 900-car parking garages at Indianapolis, Ind., by issuance of general obligation bonds after formation of a city parking district.

Texas votes bonds

Three Texas cities last week had approved bond issues totalling $9,500,000 to finance water, sewerage and other municipal districts. In other actions, citizens at Dallas rejected a proposal for levying garbage tax.

Biggest bond issue was approved by voters of Highland Park and University Park, near Dallas, where $7,000,000 in bonds will be issued to finance water and sewage works improvements. The two communities now receive water from Dallas under a contract that expires in 1950, and are seeking establishment of independent facilities. Officials contemplate construction of a reservoir on nearby Denton Creek.

Dallas, voters, asked to approve a garbage tax that was repealed by the City Council in June, voted against the proposal, even though proponents claimed that failure to approve the levy would raise the general tax rate by 22 cents.

Plan joint planning

First steps toward formation of a metropolitan planning district to coordinate city plan for the twin-cities of Omaha, Neb., and Council Bluffs, Iowa, had been taken last week after officials of two communities approved a tentative joint organization.

Officials said they hope that any joint organization formed between the two cities will grow into a regional organization to include planning for cities and towns within a 35-mile radius of Omaha and Council Bluffs.

The initial planning district would coordinate programs for street, parking, thru-way, parks and other developments in the two cities.

Market-Place Airport *—Since ground-breaking on June 20, Chicago's 25-year-old dream of a lake-front airport has been roughed in, as contractors perform preliminary work to transform Northerly Island (south of the Adler Planetarium) into an air transport facility with a 2,800-ft. landing strip and tie-down accommodations for 180 medium and small airplanes. Principal contractors, operating under direction of Ralph H. Burke, airport consultant for Chicago, are the Great Lakes Dredge and Dock Co., and the Rock Road Construction Co. The city hopes to have the $1,600,000 project ready for partial use by late fall, and to complete it by spring of 1948.*

Beach quarantine lifted

The California Board of Public Health has released some 4½ mi. of Santa Monica Bay beaches from quarantine, pollution having decreased following the chlorination of sewage at the Hyperion outfall.

The new boundaries of quarantined beach on the bay are now Sunset Pier in Venice on the north and 27th St. in Manhattan Beach on the south. The quarantined strip previously extended to Seaside Terrace in Santa Monica on the north to 14th St. in Hermosa Beach on the south.

Santa Monica Bay beaches were first quarantined by the state because of sewage pollution in April, 1943, the limits of the quarantine being extended in October, 1945. On Feb. 1, 1946, the state won a suit against Los Angeles and satellite cities which required chlorination as a first step in settlement of a judgment also stipulating treatment facilities on plant and outfall sewer. These facilities are now being built.

Delay smoke law

On the assurances of officials of railroad lines entering Salt Lake City that smoke-elimination equipment has been ordered for steam engines, city commissioners last week voted to delay the effective date of a new smoke-control ordinance (*ENR* June 26, vol. p. 993) from August 1, 1947 to Jan. 1, 1948.

The new ordinance, among other provisions, makes it a misdemeanor for any locomotive "to emit dense clouds of smoke."

City plans flood control

Spurred by the recent floods throughout the Midwest, city officials of Belleville, Ill., last week considered a recommendation by a Chicago engineering firm calling for a $1,257,000 program for widening, straightening and paving the channel of Richland Creek, and making other improvements.

Suggested by the firm of Alvord, Burdick and Howson, as a solution for the city's flood problem, the program would include the widening of the channel and enlargement of bridges and culverts crossing it, the construction of a detention basin to create an artificial lake and other work.

Name six to head top housing agency

President Truman last week named six men to head the new housing agency which groups all of the principal permanent federal housing organizations into one body known as the Housing and Home Finance Agency (*ENR* Aug. 7, vol. p. 56).

Constituent parts of the new overall agency are (1) A Home Loan Bank Board to administer the former work of the Federal Savings and Loan Insurance Corporation, the Home Owners' Loan Corporation, and the functions of the Federal Home Loan Bank Board and its members; (2) A Federal Housing Administration with the same functions as now provided by law for that agency; and (3) A Public Housing Administration to take over the functions of the old United States Housing Authority and certain remaining emergency housing activities now being liquidated. Each constituent agency will have its own identity and be responsible for the operation of its program.

Foley named chief coordinator

Raymond M. Foley has been appointed administrator of the top agency, as had been expected. He came to Washington in July, 1945 as commissioner of the old FHA. In 1946 he was appointed administrator of the National Housing Agency, continuing to serve as head of the FHA. Previous to the start of his Washington service Foley for 11 years was Michigan state director of FHA.

Franklin D. Richards, of Utah, is commissioner of the new FHA. A lawyer, Richards has been connected with federal housing work since 1934, when he was appointed state director in Utah for FHA. In 1946 he was appointed first assistant commissioner of this agency in charge of all field operations.

PHA chief selected

To head PHA, the President has selected Dillon S. Myer of Ohio. Myer, an agronomist, has been in government service for 33 years. In 1934 he came to Washington with the Agricultural Extension Service, shifting later to the soil conservation service. He was appointed commissioner of the old FPHA in August, 1946.

Members of the Home Loan Bank board are: John H. Fahey of Massachusetts, chairman; Nathaniel Dyke, Jr., of Arkansas; and J. Alston Adams of New Jersey. For many years in the publishing business, Fahey in 1941 was named commissioner of the Federal Home Loan Bank Administration. Dyke is a partner in the Dyke Brothers Lumber Co. in Arkansas and is a director of a number of banks, while Adams is a banker who has served since 1934 as executive vice president and director of the Westfield, N. J., Trust Co.

Divert Payette River to start work on dam

Waters of the north fork of the Payette River near Cascade, Idaho, were diverted by a cofferdam July 7 to permit start of construction by the Morrison-Knudsen Co. on a 90-ft. high earthfill dam creating a reservoir that will store 700,000 acre-feet of water for irrigation.

The water was diverted through a 600-ft. long concrete tunnel, 15 in. in diameter, on the south side of the river, which will be a permanent part of the dam's outlet works. Completion of the dam is scheduled for October.

Col. Ralph King to direct Vicksburg station

Lieut.-Col. Ralph King, a 1936 graduate of the U. S. Military Academy and during World War II assistant engineer with the 7th Army in Europe, has been named by Maj. Gen. R. W. Crawford, Jr., president of the Mississippi River Commission, as director of the U. S. Waterways Experiment Station at Vicksburg, Miss. He received his master degree in civil engineering from the Massachusetts Institute of Technology.

Herbert K. Cook, concrete research engineer, has been designated chief of the concrete research division of the station, replacing Charles E. Wuerpel, who has accepted a position with the Inter-American Construction Co. as expert on concrete of the Comision Technica Norteamericana in Buenos Aires, Argentina.

Urge long-range planning to reduce building costs

Organization by all western chapters of special "standing projects" committees as a step toward reducing building costs was recommended recently by the western chapters conference of the Associated General Contractors at Portland, Ore.

The committees are to confer with contract-awarding agencies concerning annual governmental construction appropriations and to recommend, wherever possible, that small piecemeal jobs be eliminated. Through larger projects and long-range planning, construction costs can be reduced, the delegates believe.

Appointed on a conference "standing projects" committee were: E. J. White, Seattle, Wash., Guy F. Atkinson, San Francisco, Calif.; C. V. Isbell, Reno, Nev.; Don Hall, Portland; H. L. Royden, Phoenix, Ariz.; Allen E. Mechen, Salt Lake City, Utah, and M. F. Kemper, Los Angeles, Calif.

THE COVER PICTURE

Now under construction as part of the improvement of Patterson Field at Dayton, Ohio, is a runway with an overall length of 10,000 ft. and a 300-ft. width. This length equals the longest runways in the United States. Designed to accommodate 300,000-lb. aircraft, the runway is being made 21 in. thick with the concrete placed in 25-ft. strips.

Construction also includes a 150x8,000-ft. taxiway. This pavement will be 25 in. thick. In constructing both the runway and the taxiway an air-entraining admixture will be used in manufacturing the concrete.

All construction is by the Louisville District of the Corps of Engineers for the U. S. Army Air Forces. W. L. Johnson Construction Co., Columbus, Ohio, is the general contractor. Ground was broken for the $5,000,000 project July 23 last year and the job is scheduled to be completed in December of this year.

(Bervin A. Johnson photo)

E. L. Pavlo establishes consulting office

E. L. Pavlo, formerly chief engineer of Madigan-Hyland, New York City, has announced the establishment of a consulting engineering practice to specialize in bridges, expressways, foundations, harbor works and buildings.

For the last 13 years, Mr. Pavlo has been identified with the design of New York City projects, such as the West Side Improvement, Henry Hudson Parkway, Belt Parkway, Gowanus Parkway, Bronx-Whitestone Parkway, Brooklyn-Queens Expressway, New England Thruway, and the St. George ferry terminal.

Mr. Pavlo is a graduate of Robert College and also of the Massachusetts Institute of Technology.

Two engineering bills vetoed by President

Both the bill establishing a foundation for research in pure science (S. 526), including some work pertaining to construction, and the measure authorizing the St. Lawrence Bridge Commission to construct a bridge across the St. Lawrence River at Ogdensburg, N. Y., have been vetoed by President Truman.

Work of the foundation would have been centered in a board of 24 scientists (*ENR* July 24, vol. p. 101). These men would have elected a director. A program involving about $20,000,000 was planned for the first fiscal year.

In vetoing this plan, the President stressed that the bill would give control of vast funds and vital governmental functions to a group of essentially private citizens who would be only part-time officials and who would not be responsible to the President. This, said the President, would insulate the foundation from control by the people "to an extent that implies a distinct lack of faith in democratic processes."

The President also noted that the qualifications prescribed for members of the foundation would insure that most of them would be individuals employed by institutions or organizations eligible for grants of funds from the foundation.

The St. Lawrence bridge bill was disapproved because the President opposed a tax-exempting provision in the measure.

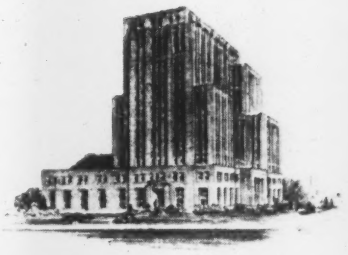
ARBA sets Jan. 26-28 for Washington meeting

The 45th annual convention of the American Road Builders' Association will be held in Washington, D. C., Jan. 26-28, 1948, according to an announcement by J. T. Callaway, president.

"This meeting will be of the utmost importance to the highway construction program," declared Mr. Callaway. "Between now and next January, $1¼ billion worth of highway projects will be placed under contract. Next year should see our program on its way to a peak of $2 billion annually. Deliberations at this convention will have a vital bearing on the expenditure of this huge sum, and on the problems of meeting ever-increasing traffic demands."

"Manufacturers, contractors, distributors, county and municipal highway officials and airport, education and Pan American divisions will hold group sessions and participate in the general discussion, President Callaway announced. More than a score of technical committees will make detailed reports. Technical discussion will be the most complete ever presented in the history of ARBA," he asserted.

The 2,000 delegates will hear the latest developments on the 1948 Road Show, to be held July 16-24, 1948 at Soldier Field, Chicago. Between 60,000 and 75,000 people are expected to attend this revival of the world's fair of road machinery.



***State Office Building** — The Mississippi State Building Commission has approved preliminary plans for the exterior of a new $3,000,000, fifteen-story state office building to be erected at Jackson. E. L. Malvaney of Jackson has been named chief architect for the project. Interior details have not yet been completed.*

Construction activity up 10 percent in June

Construction activity as measured by the value of work put in place rose 10 percent from May to June, according to preliminary estimates of the Bureau of Labor Statistics of the U. S. Department of Labor.

Total construction expenditures increased to $1,229,000,000 and the addition of 73,000 workers by construction contractors brought June employment to a total of 1,760,000. Compared with June, 1946, expenditures were up 19 percent and employment had increased by a quarter of a million workers.

Prices of construction machinery rose approximately another 3 percent in the 3-month period, April-June, 1947. During the first half of the year prices for such machinery increased nearly 6 percent and were almost 37 percent above August, 1939.

Canada begins building 6,000-ft. airport runway

Construction of an airdrome runway 6,000 ft. long and 300 ft. wide is being started for the Joint Air School at Rivers, Man., the Canadian Royal Air Force said last week. Two strips, which can be lengthened to 8,000 ft. without alteration in design, will be used by the army, navy, and air force for training in combined operation.

Greek construction contracts awarded

Two new contracts totalling $81,500,000 to U. S. firms for construction work in Greece as part of the American aid program to that country have been awarded, in addition to a $900,000 contract awarded previously. The contracts were negotiated by the Corps of Engineers, War Department. Col. David W. Griffiths, until last week district engineer at Galveston, Tex., for the Army Engineers, has been named district engineer for Greece.

A $64,000,000 contract has been awarded to a combination of Johnson, Drake, and Piper, Inc., New York; Guy F. Atkinson, Inc., San Francisco, and Starr, Park and Freeman, Inc., New York. A total of work to be done with U. S. funds in Greece is still estimated at $48,000,000 as outlined in *ENR* July 31, vol. p. 162, but Greek funds makes the total amount of work to be done appreciably higher than those estimates.

The negotiated cost-plus contract calls for reconstruction of the railroads, highways and bridges. The three firms will receive $10,300,000 in U. S. funds and $38,700,000 in drachmas for the highway work and $8,500,000 in U. S. dollars and $6,500,000 in drachmas for railroad reconstruction.

A $17,500,000 contract for the reconstruction of the ports of Piraeus, Salonika and Valos and the clearance of the Corinth canal has been awarded to Grove, Shepherd, Wilson and Kruge, Inc., and J. Rich Steers, Inc., both of New York. This contract calls for $11,600,000 in dollars and $5,900,000 in Drachmas.

The district office in Athens will be a part of the North Atlantic division of the Corps. The construction staff employed by the State Department is headed by Arthur A. Dobson, construction engineer and partner in Dobson-Robinson, Lincoln, Neb. (*ENR* July 31, vol. p. 162). Wilfred Painter, of Starr, Park and Freeman; and B. A. Byrnes and Earl Jennett, of the Guy F. Atkinson firm have gone to Greece.

MEN AND JOBS

Wilfred L. Karrer of Boise, Idaho, has been appointed construction engineer in charge of the rehabilitation of the Lewiston Orchards Project for the Bureau of Reclamation. Mr. Karrer has been employed in the Bureau's Pacific Northwest headquarters at Boise as chief of the Branch of Design and Construction. Formerly he worked on the Owyhee Dam and distribution system, on the raising of the Arrowrock Dam as field engineer, in the Bureau's Denver office as associate engineer, and at Anderson Ranch Dam as engineer.

T. L. Cordle has resigned as city manager of Lancaster, S. C., to become city manager of Morganton, N. C., succeeding **Claude H. Helms,** who recently was named to a similar post at New Bern, N. C. Mr. Cordle received his civil engineering degree from the University of North Carolina in 1933. He served overseas with the Navy in World War II and later was connected with J. N. Pease Co., Charlotte, N. C. engineering firm, before leaving in April, 1946, to become city manager at Lancaster.

American Institute of Steel Construction staff at a recent New York Meeting included, left to right; L. A. Post, executive director; T. H. Hendrix, director of statistics, and Herbert Ferris, engineer.

John A. Parker of the Department of Regional Planning of the University of North Carolina, Chapel Hill, has been employed by Greensboro, N. C., to set up a new city planning department.

William E. Rawlings, supervisor of the Missouri Basin Project Development staff since early 1946, has been appointed assistant director of Region 6 Bureau of Reclamation, Kenneth F. Vernon, regional director, announced in Billings, Mont. Prior to his connection with the bureau, he was associated with the War Relocation Authority and was director of the Minidoka Relocation Center, Hunt, Ida. Formerly he was state representative of the Department of Agriculture's Bureau of Agricultural Economics in Idaho.

Charles J. Rend, St. Paul, Minn., an engineering specialist, has become general manager of the Walter Butler Co., general contractors. Robert Butler, head of the company, is now United States ambassador to Australia. Mr. Rend, a former commodore in the United States Navy is a graduate of Annapolis.

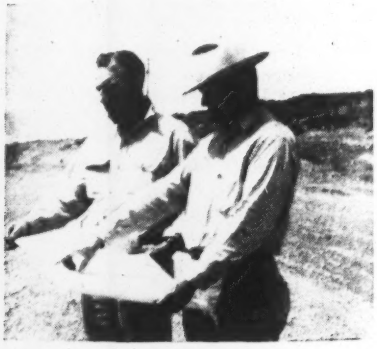
Al M. Kircher, who recently resigned as city engineer at Mankato, Minn. after 14 years of service, has opened an office as consulting engineer in the American State Bank Building at that city. He will specialize in water works, sewers, street paving and other municipal projects. He is now serving as president of the Minnesota Association of Professional Engineers and is a past president of the League of Minnesota Association of Professional Engineers, and the Minnesota Section of the American Water Works Association.

Col. E. B. Myott, formerly chief engineer of the maintenance department, Boston Elevated Railway, has been appointed superintendent of maintenance, succeeding **Harry M. Steward,** who has retired after 55 years of engineering service. Colonel Myott joined the Boston system in 1946 after nearly 32 years' experience in the engineering and construction field, including street railway, bridge, and public works projects in this country and abroad. A veteran of the two world wars, Colonel Myott served in Iran and Iraq on transportation problems connected with the movement of military supplies to Russia and later served in both the European and Pacific theaters. He was at one time in charge of engineering design for Army bases in Newfoundland.

James H. Berry of Blue Mound, Mo., recently named street commissioner of Chillicothe, Mo. has had some 30 years of experience in construction work. For a large part of that time he operated his own construction business. He has also held various supervisory construction positions in the Middle West and California.

Oklahoma State Highway Director **H. E. Bailey** has announced changes in highway personnel. **Stoner McLelland,** assistant chief engineer, has been named chief engineer. **G. H. Bittle,** who served under Bailey as assistant chief

Walter Sandelin, left, member of the California highway commission, and F. W. Panhorst, bridge engineer, used a 10-ft. scissors to cut a ribbon marking official opening of an overpass on the Bayshore highway at San Jose. San Jose city officials and citizens look on.



Specifications are consulted by Roy F. Johnson, of Morrison-Knudsen Co., left, and P. M. Noble, resident engineer for the Bureau of Reclamation, on final inspection of main canal of Columbia Basin Project.

will serve in the same capacity under McLelland. **J. D. Jenkins**, division engineer at Muskogee, has been transferred to department headquarters as assistant state maintenance engineer. **Leo Brooks**, formerly assistant state maintenance engineer, succeeds Jenkins at Muskogee. **W. M. Trotter**, division engineer at Buffalo, has been replaced by **Ed O'Dell**, also assistant maintenance engineer.

George H. Craemer, a division engineer, has been named superintendent of highways for the Hartford, Conn., Metropolitan District Commission. A graduate of the Massachusetts Institute of Technology, Mr. Craemer has worked for the city of Hartford since 1926.

Robert L. Gardner has resigned from the Bureau of Bridges, Illinois Division of Highways, as engineer to become assistant county superintendent of highways at Waterloo, Ill., under his father, Albert R. Gardner, Monroe County superintendent of highways. Mr. Gardner had been with the Division of Highways since January, 1941, with the exception of nearly four years of military service.

H. E. Struck, engineer, has resigned from the Bureau of Bridges, Illinois Division of Highways, to work with the General Electric Co., Richland, Wash.

LeRoy M. Hersum, consulting engineer, announces the re-establishment of his office at 6 Beacon St., Boston, Mass. He will specialize in airports, bridges, buildings, foundations, highways.

Nelson F. Pitts, city engineer of Syracuse, N. Y., is back at his desk after a 4-month illness. **Potter Kelly** was acting city engineer during Mr. Pitts' absence.

J. P. Hart, Tacoma; **E. B. Crane**, Seattle; **M. K. Snyder**, Sequim, and **Richard Tyler**, Seattle, have been appointed to the new Washington state board of registration for professional engineers and land surveyors.

Harvey R. Sexauer has been appointed airport engineer for the Iowa Aeronautic Commission at Des Moines. Mr. Sexauer replaces **R. C. Boyd** who worked temporarily for the commission on leave from the State Highway Commission.

Col. W. W. Wanamaker, U. S. Corps of Engineers district engineer at Fort Lincoln, N. D., in charge of building the $160 million Garrison Dam, will be transferred to the Baltimore, Md. district in August.

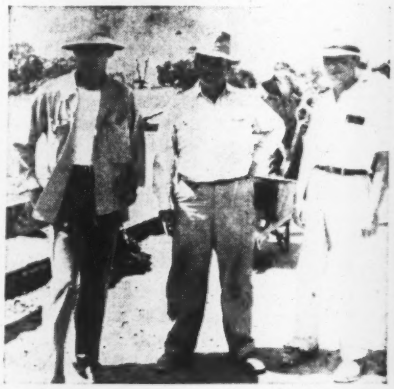
Paul A. Williams, civil engineer, has resigned from the Seattle, Wash., engineering department and acquired an interest in the William S. Kelton Co., land surveyors and civil engineers. The name of the firm has been changed to the American Engineering Co.

Lieut. Col. James H. Beddow has been appointed chief of the operations division, Seattle district, Corps of Engineers. Previously he did graduate work at the California Institute of Technology, after serving for some time in the North African and Mediterranean theater of the war.

Col. B. C. Snow, U. S. Army district engineer at Wilmington, N. C., since last November, has been transferred to Guam, and **Col. John B. Hughes**, Charleston, S. C. district engineer, has been named acting district engineer at Wilmington.

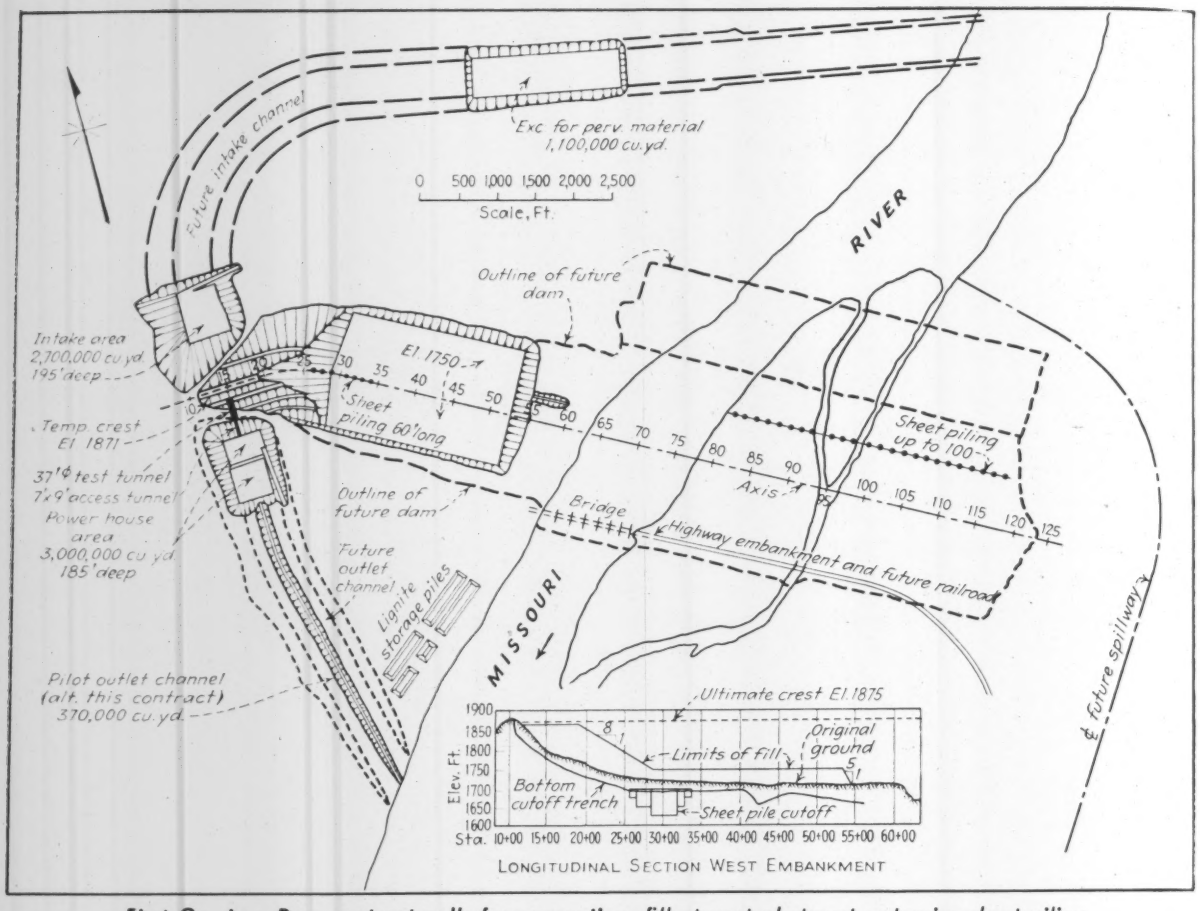
Karl R. Kennison (right), chief engineer, Metropolitan District Water Supply Commission, Boston, Mass., and Stanley M. Dore, assistant chief engineer, attended recent meetings of the New York-New England Sewage Works associations. The meetings were held at Albany, N. Y.

A new reinforced concrete bridge six miles south of Dalton, Ga., is the center of interest for James Hahn of the Georgia highway department; B. B. Pickering, engineer in charge, and J. C. Shepherd, contractor's foreman.



Supervising an Indiana state highway job near Franklin are, left to right: J. R. Stevenson, paving inspector; H. L. Bowen, contractor's superintendent; and John Yaw, project engineer.

Chester G. Gillespie (center), retired former state sanitary engineer for California, and H. H. Gerstein (left) engineer in charge of plant and John R. Baylis, engineer of water purification, join in an inspection trip of Chicago's South District filtration plant. Mr. Gillespie now gives his time to the sanitation research program of the National Institute of Health.



First Garrison Dam contract calls for excavation, fill at west abutment, extensive sheet piling

To call bids on Garrison Dam soon

(Continued from page one)

Included in the next contract will be 286,400 lin. ft. (54½ mi.) of steel sheet-piling, of which 31,000 ft. will be furnished by the contractor, the remainder by the government. A cutoff trench will be excavated under the west end embankment and here the 31,000 ft. of piling will be driven through glacial till areas in a trench length of 800 ft. Maximum sheet length here will be 60 ft. The contract will also include 3,650 ft. of trench and piling, aggregating 255,000-lin. ft., across the valley floor on the east side of the river. Here piling will run up to 100 ft. in length. Straight web sheeting, Carnegie-Illinois M-112, Bethlehem S-4 or equal, is specified, and because of shortness of time, consideration will be given to good second-hand piling for that furnished by the contractor.

The extreme west end of the main embankment will be built up to full section to load the tunnel area for lining tests. Most of the embankment will be spoil from the two big holes, but an additional million yards for pervious fill will come from excavation within the future intake channel, about ¾ mi. north of the dam on the west side. Finished crest length of the embankment will extend only 900 ft. out from embankment, then the fill drops off on 8:1 slope to a 35-ft. blanket over the base of the future embankment on the crest valley floor.

Some lignite, properly dispersed, will be permitted in the fill, but that considered as commercial grade will be stored by the contractor in nearby stock piles. Various experiments will be made in shaping the stockpiles and covering them with earth to preserve the lignite.

General conditions

Because of past complaints that the engineers have wasted good timber, the contractor must save or use every tree trunk 12 in. or longer.

A 160-man dormitory in the construction town of Riverdale will be available for single men in the contractor's forces. All provisions for employees' families must be made by the contractor. A paved highway is now being completed from State Rt. 83 to Riverdale, and extending from the east bluff to the bridge across the river, which will be finished this fall. A Soo Line railroad spur has been built as far as Riverdale. Limited access from the west side is by a Northern Pacific branch line and an 18-mi. haul over poor country roads.

Engineer-contractor conferences were also held the week of July 28 in contemplation of call for bids for the permanent town of Riverdale. This project involves permanent and temporary housing, warehouses, offices and appurtenant buildings, along with sewers, water and power installations.

The Garrison Dam project is under the direction of Brig. Gen. Lewis A. Pick, U. S. Division Engineer, Missouri River Division, Omaha, and Col. John S. Seybold, District Engineer, Garrison District, who succeeded Col. W. W. Wanamaker on Aug. 7.

Fish boat terminal planned for Los Angeles

Los Angeles Harbor commissioners, meeting at the port, have proposed a $2,750,000 fish boat terminal at the Southern Pacific Slip. It will be submitted to purse seine groups, and if approved, construction will be started at once. It will be concrete and will accommodate 100 purse seiners.

Mississippi hospital plan ready for building work

Mississippi's $50,000,000 hospital construction program, drawn up as a 5-year plan is scheduled to get under way late this fall.

The state's construction program was the first to be approved by the U. S. Public Health Service and federal assistance funds are now available. The Mississippi Commission on Hospital Care, headed by Dr. D. V. Galloway of Jackson, is the agency in charge of the program.

Work outlined for the first year, involving an expenditure of approximately $12,000,000, includes general hospitals totaling 1,300 beds at $9,000,000, tubercular hospital additions of 200 beds at $1,850,000 and 12 county health department buildings totaling $801,000. The program will be financed on the basis of ⅓ federal, ⅓ state and ⅓ community funds.

The commission estimated that the program will cost at the rate of $7,000 to $8,000 per bed for buildings and equipment.

MORE SMOKE, LESS NOISE

One thing about "smog," the smoke-fog combination that's a headache to city fathers in a number of United States industrial centers—it cuts down on noise.

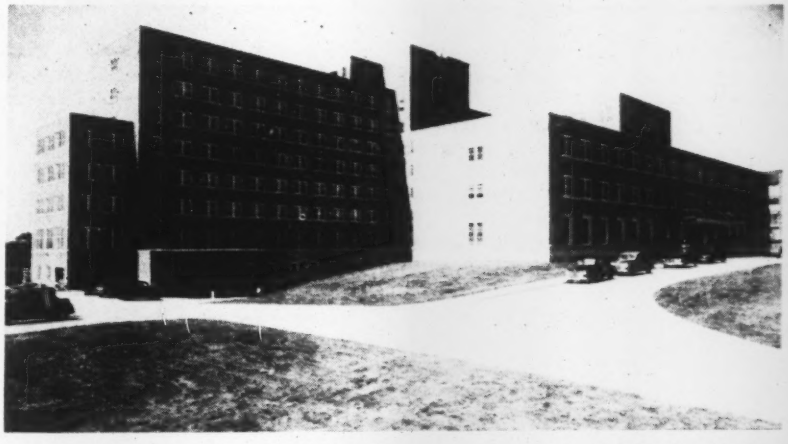
Prof. Vern O. Knudsen, acoustics expert, told a symposium of sound at the University of Utah that smog is highly effective in absorbing high-pitched noise, such as is made by whistles or high-speed machinery. It has little effect, however, on low, rumbling sounds.

Knudsen, physicist at the University of California in Los Angeles, tested sound-deadening properties of smog by filling a room with smoke made of ammonium chloride thick enough to reduce visibility to about 20 ft. High-pitched tones were muffled appreciably by the smoke blanket, he said.

Civil engineer to head air policy committee

Representative Carl Hinshaw of California, a civil engineer, will head the Congressional commission of five Senators and five Representatives to investigate and make recommendations for the formulation of an air policy at the next session, according to reports from Washington.

John C. Cooper, formerly a vice-president of Pan American Airways, and currently a member of the Institute for Advanced Study at Princeton, has been named a consultant to the President's board.



Hospital Completed—*Now admitting patients is the $3,600,000, 403-bed Georgetown University Hospital in Washington, D. C. Started as a war project, the structure was completed on order from the Federal Works Administration as a contribution to the medical-teaching profession as well as for community service. General contract was held by John McShain Co. of Philadelphia, and architects were Kaiser, Neal and Reid, of Pittsburgh, Pa.*

Inter-American sanitary meet set in Chilean city

The third Inter-American Sanitary Engineering Conference will take place at Santiago, Chile, Nov. 20-27, according to the Inter-American Association of Sanitary Engineering and the Institute of Engineers of Chile, collaborating on arrangements. All sanitary, civil and hydraulic engineers, sanitary chemists, public health officials and others engaged in sanitation activities in the Western Hemisphere, are invited.

The recently-formed Chilean section of the Inter-American Sanitary Engineering Association is in charge of arrangements for the conference. General plans include inspection trips to Santiago's water treatment plant and the Villa Alemana sewage treatment plant. A large list of technical papers on water supply, sewage treatment, malaria control and rural sanitation will be presented. Manufacturers' exhibits will again play a prominent part at the conference.

Final action will be taken on the association's constitution, jointly prepared and approved by the Rio de Janeiro, Brazil, and Caracas, Venezuela, Regional Conferences last year.

The Chilean Conference Committee is headed by Ruperto Casanueva. U. S. participation is being coordinated by C. I. Sterling, Jr., Institute of Inter-American Affairs, Washington, D. C. Further information may be obtained from the Secretary, Inter-American Association of Sanitary Engineering, N. W. Corner, 17th & Constitution Ave., Washington 6, D. C.

Buffalo hospital work to be readvertised

Construction of the main building for the 1,000-bed Veterans Administration hospital, Buffalo, N. Y., will be readvertised some time in September, all the bids taken a short time ago having been rejected. Before the readvertising changes will be made in specifications. Also to be readvertised in August are the utility wing and the outside utilities.

A $1,140,570 contract for the power and lighting facilities has been awarded to the Buffalo Electric Co. and Ferguson Electric Co., both of Buffalo. A $559,022 contract was also awarded to the Otis Elevator Co. for the elevator work. The foundation contract was awarded several months ago to Winkleman Brothers of Syracuse, N. Y. Bethlehem Steel Co. holds the contract for the structural steel work.

High cost to cut space in veterans' hospitals

Gen. Omar N. Bradley, administrator of Veteran's Affairs, has instructed the Army Engineers to reduce non-essential space in hospitals under design because of high construction costs.

"Examination of the preliminary layouts for a number of hospitals under design," the general said, "has shown that they cannot be built at today's prices on the funds allotted to them a year ago. A hospital that cost 85 cents per cu. ft. in 1945 would have cost $1.25 per cu. ft. in 1946. At today's excessive prices, the same hospital would cost the taxpayer about $1.80 per cu. ft."

The order may mean the elimination from some hospitals of such features as staff and office space, doctors' quarters, and theaters. In some cases, contracts with architect-engineers will be renegotiated by the Corps of Engineers on the basis of the new policy.

General Bradley said that if prices continue to mount, he would have to ask Congress next session for instructions or more money. Recent bids have run 15 to 35 percent over "the most generous government estimates and there is evidence that contractors are adding a 15 to 30 percent 'fear contingency cushion' to bids."

Construction hampered by high building costs

Examples of high costs hampering public construction were provided in reports last week from Connecticut and Ohio.

Comptroller Fred R. Zellar of Connecticut said only absolutely essential projects will reach the construction stage until prices of materials and labor go down. Last week bids were opened for construction of 14 buildings at the University of Connecticut for which the legislature appropriated $3,500,000. The low and only bid received doubled this amount.

Plans have been completed for new construction estimated to cost $10,000,000, and drawings are being made for $6,000,000 more of construction work at mental hospitals in Middletown, Norwich and Newtown and this expansion is essential. Construction costs, says Mr. Zellar, have increased between 50 and 100 percent since 1944. It would be foolish, Mr. Zellar believes, to embark upon an extensive building program under these conditions.

What part of the program will be followed is a problem, particularly for construction at the University of Connecticut where dormitories, laboratories, infirmary and classroom buildings are sorely needed. Recent bids were rejected.

Curtailment in Ohio

Rigid curtailment of the Ohio Welfare Department's multi-million dollar construction program because of rising costs has been indicated by Charles L. Sherwood, state welfare director. With $37 million available for repairs, renovations, and new construction through 1948, the department will not exceed previously arranged budgets for any project. Rather than build units of specific sizes, Director Sherwood said, the amount of money on hand would determine the final result.

For example, bids will soon be taken on a hospital at the Apple Creek State School near Wooster, which the department wants to build for $1,700,000, but which officials say will get a low bid of more than $3,000,000. Sherwood said the department's plan would be that the Apple Creek Hospital, originally slated as a 500-bed institution, now would contain only as many beds as $1,700,000 would buy. By adhering to this plan for all projects, Sherwood said he was determined to spend all the money appropriated for his department.

Funds appropriated for the welfare department for 1945-46 but not spent totaled $21,991,000. An emergency power plant appropriation of $3,376,600 has been allowed, and new appropriations total $12,000,000.

Parrott named head of C. F. Lytle Co.

In a re-organization of the C. F. Lytle Co., heavy and highway contractors, of Sioux City, Iowa Forrest W. Parrott stepped up from vice-president to president, and former president Francis K. Lytle becomes chairman of the new board of directors. Parrott, who is now president of the Associated General Contractors of America, has been with the firm since 1921.

Ernest E. Hall, executive assistant to Maj. Gen. Philip B. Fleming, FWA administrator, joins the company as vice-president, and D. W. Clayton, an employee of Lytle for 20 years, also was named a vice-president. These four, along with Harvey L. Rice, secretary-treasurer, make up the new board of directors.

The firm is now engaged in building Pot Holes Dam on the Columbia Basin project in the state of Washington, Canton Dam in Oklahoma, and extensive military installations in Alaska, all as part of combinations of contractors.

Final contract let for Salt Lake City aqueduct

A $1,620,884 contract for completion of the Salt Lake aqueduct has been let to United Concrete Pipe Co., Los Angeles, Calif., the metropolitan water board of Salt Lake City has announced.

The contract calls for the installation of 7½ mi. of 69-in. concrete pipe from the end of a formerly laid pipeline near the mouth of Little Cottonwood Canyon to the Park reservoir, east of Salt Lake City. The fully-completed line will be 41 mi. long and will carry water from the Provo River in Provo Canyon to Salt Lake City, Utah.

Furthermore the water which enters the acqueduct will be picked up at a large pumping station located in the mouth of the canyon, forced several hundred feet up the Wasatch Mountains and then flow by gravity approximately 40 mi. to Salt Lake City.

While the full capacity of the line will not be utilized under normal conditions, its entire capacity can be brought into service in case of severe drouth through increased operation of the pumping plant in the mouth of Provo Canyon.

The operation and maintenance costs of the pumps will be about $1.25 per ac. ft. and the return to the city for water distributed through the system is approximately $30 per second ft. The contractor will have more than two years to complete the 7½-mi. section. However, the Salt Lake City commission and water department personnel have strongly recommended that the line be finished as soon as possible. The Los Angeles company expects to start laying the pipe immediately.

Recommend big harbor improvements at Gulfport

The Corps of Engineers has recommended a $496,000 harbor improvement program for Gulfport, Miss. calling for the deepening of the channel there from 26 ft.

A report was released at Mobile, Ala., by G. W. Gillette, division engineer, Atlanta, Ga. A 30 ft. channel is recommended for the anchorage basin, also channels 220 ft. to 300 ft. wide across the bar to the gulf and at Mississippi Sound. Gulfport interests have requested a 300 ft. wide channel. The engineers' report is to be forwarded to the board of engineers for rivers and harbors.

OBITUARY

Thomas Martin, 85, general superintendent, New York and New England area, The Arundel Corp., Brooklyn, died July 31, in New York City. He was associated with Arundel and predecessor companies since 1909. Through his efforts many million dollars worth of marine construction was completed in various harbors along the Atlantic Coast from Maine to Florida, including the dredging and rock excavation of New York and New Jersey Channel, East River Channel from upper New York harbor to Long Island Sound, Hell Gate Reefs, Cape Cod Canal, Mass., Quonset Navy Base, Rhode Island, and the Navy Casco Bay Anchorage, Maine.

Guernsey W. Ellis, 66, an engineer with the New York State Department of Public Works for 28 years, died Aug. 3 in Buffalo. He received his civil engineer's degree from Cornell University in 1904. He served with Hazen & Whipple, hydraulic engineers, in New York City and had charge of designing a water supply system for Yonkers, N. Y. In 1909 he joined the Turner Construction Co. of New York as structural designer. In 1913 he left to become a bridge designer for the state, a position he held until his retirement in 1941.

James Dick Kennedy, 64, a civil engineer who had worked in many parts of the country, died July 31 at his home in Dansville, N. Y.

Richard Connery, 69, highway surveyor for Bristol, R. I., for the last nine years, died July 27.

Cheston M. Bryant, 66, a hydrographic engineer for the Phliadelphia Department of Wharves, Docks and Ferries for the last 40 years died July 26 at Island Heights, N. J. He was a graduate of the University of Pennsylvania.

Cecil Otho Dale, 65, died July 17, at Los Angeles. He was an engineer for the United States Reclamation Bureau for the last 11 years, and was recently with the Parker Dam Power project.

Chester W. Smith, Newburyport, Mass., civil engineer, died July 22. Mr. Smith had worked on important missions for the United States Navy since 1941 at the Quonset Point Naval Air Station and in Newfoundland, and most recently with the Bethlehem Shipbuilding Co. Other connections included work on a hydroelectric project in Chile; irrigation works projects in Mexico; a dam, 9-mile tunnel and aqueduct construction project in Greece; and harbor works at Palermo, Sicily. From 1904-1910 he worked in the U. S. Reclamation Service as construction engineer at Roosevelt Dam and allied projects.

Francis Joseph Seery, 73, formerly city engineer of Waterbury, Conn., died July 27 at his home in Dover, Del. He was professor emeritus of hydraulic engineering at Cornell University.

Safford K. Colby, 74, vice-president in charge of research and advertising for the Aluminum Company of America, died in Pittsburgh, Pa., Aug. 4. He had been with the company for 51 years. He was graduated from Rensselaer Polytechnic Institute in 1894 with a civil engineering degree. He joined the Pittsburgh Reduction Co. in 1895, and in 1905 was placed in charge of the company's Pacific Coast representatives. In 1915 he was made general sales manager. He went to Alcoa's general offices in Pittsburgh in 1928 in charge of sales and advertising. He became a vice president in 1931, and supervised the research laboratories. He was a life trustee of R. P. I.

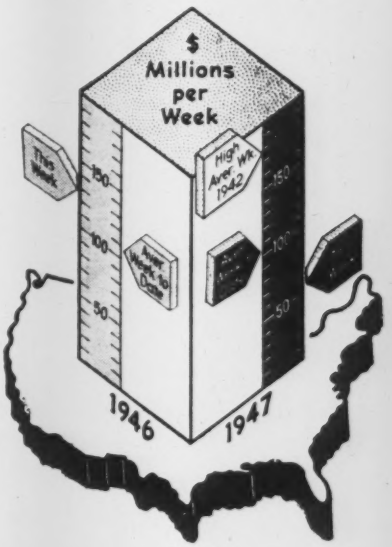
L. E. Sneary, 62, civil engineer for the Superior Electric Co., Kansas City, Mo., died there Aug. 5. A graduate of Ohio Northern University, he was city engineer of Davenport, Iowa, 1917-32, and later a special investigating engineer for the U. S. government in the Middle West.

Joseph E. Sirrine, 74, senior partner of J. E. Sirrine & Co., designers of industrial, and power plants, died at Greenville, S. C., Aug. 7. He was a graduate of Furman University, and founded his engineering firm at Greenville in 1902, which has become one of the largest in the Southeast.

C. E. Olson, 47, consultant engineer for the Wheeler Bridge & Lumber Co., and former bridge designer for the Minnesota State Highway Department, died at Minneapolis Aug. 4.

Clarence Ira Jones, 68, civil engineer, died in New Orleans, La., Aug. 4. A graduate of Illinois Institute of Technology, he was an engineer for Chicago, and subsequently built some of the important units in the Mississippi Valley flood control system.

CONSTRUCTION ACTIVITY



As Reported this week to ...
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of Aug. 14 1947	Cumulative 1947 (33 wks.)	Cumulative 1946 (33 wks.)
Federal	$5,946	$431,201	$479,676
State & Mun.	27,030	1,065,947	883,679
Total Public	$32,976	$1,497,148	$1,363,355
Total Private	24,425	1,868,124	2,145,602
U. S. Total	**$57,401**	**$3,365,272**	**$3,508,957**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1947 (33 wks.)	Cumulative 1946 (33 wks.)
Waterworks	$2,084	$69,784	$64,079
Sewerage	4,485	85,051	63,126
Bridges	3,707	109,986	84,843
Highways	11,108	506,449	513,407
Earthwork, Waterways	2,223	196,350	261,736
Buildings, Public	7,257	358,453	253,610
Industrial	6,596	501,743	657,352
Commercial	16,353	1,098,415	1,361,729
Unclassified	3,588	439,041	249,075

NOTE: Minimum size projects included are: Waterworks and waterway projects, $22,500; other public works, $40,000; industrial buildings, $55,000; other buildings, $205,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1947 (33 wks.)	Cumulative 1946 (33 wks.)
NON-FEDERAL	$1,504,622	$1,097,529
Corporate Securities	522,299	313,521
State and Municipal	734,612	559,008
Fed. Aid Highway	247,711	225,000
FEDERAL	*818,729	1,714,695
Total Capital	***$2,323,351**	**$2,812,224**

* *Correction from Aug. 7 issue.*

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Aug.'47	415.00	199.49
Building Cost	Aug.'47	313.03	169.21
Volume	July '47	222	97

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *J. A. MAHONEY, Reports* *E. R. BIGGERSTAFF, M. R. ROESSLER, Statistics*

WATER SUPPLY

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked August 22

La., Natchitoches—City, City Hall, watermain extens., storm sewers. Plans deposit $15 each. Freese & Nichols, 407 Danciger Bldg., Fort Worth, Tex., engrs. CD 6/11/45—ENR 6/28/45 under Water Supply and 5/23/47—ENR 6/12/47, under Sewers.

Bids Asked August 26

Fla., Tallahassee—City, elevated tank fdn. and appurtenances. Plans deposit $10. Wiedeman & Singleton,, C. & S. National Bank Bldg., Atlanta, Ga., engrs. CD 11/8—ENR 11/14.

Tex., Mason—City, drilling, casing, developing deep supply water well, $25,000; WW sys., distr. lines, 200,000 gal. rein.-con. or steel ground reservoir, $35,000. Plans deposit $25 each. H. R. F. Helland, 904 Frost Bank Bldg., San Antonio, engr. CD 1/14/46—ENR 1/21/46.

Bids Asked August 29

La., Baton Rouge—State Dpt. Finance, 201 Capitol Annex, water and sewer facilities at Industrial School for Colored Youths. Plans deposit $15. Carnegie & Smith, 300 A Dalrymple Dr., archts.

Ont., Kemptville — W. H. Finnerty, reeve and Village Council, Kemptville, 20,700 lin. ft. 4-to 8-in. watermains for Village, R. J. Patterson, clk. Plans deposit $15. Gore & Storrie, 1130 Bay St., Toronto, engrs.

Bids Asked August 30

Ind., Connersville—Bd. P. Wks., W. W. McFalls, secy., City Hall, WW imprvs., watermain extens. $80,000. Plans deposit $15. J. W. Moore & Son, 831 Indiana Pythian Bldg., Indianapolis, consult. engrs. CD 10/10/45—ENR 10/18/45.

Bids Asked About September 1

Ala., Cordova—Jasper Waterworks Bd., Jasper, WW imprvs. $75,000. J. W. Goodwin Eng. Co., 726 S. 29 St., Birmingham, engr.

N. Y., Catskill—Village, altering pipe gallery and clear well at water plant. $88,000. Benjamin L. Smith & Assoc., 11 N. Pearl St., Albany, archts. Whitman & Smith, 11 N. Pearl St., Albany, engrs. CD 11/29/45—ENR 12/13/45.

Bids Asked September 3

N. C., Gastonia—City, H. Rutter, mgr., WW and electrical imprvs. Extended date, Piatt & Davis, Box 971, Durham, engrs. CD 7/17.

Bids Asked September 4

†D. C., Wash.—U. S. Eng., First and Douglas Sts. N.W., Zone 25, constructing Flocculation-Sedimentation Basin 4, Washington Aqueduct, Dalecarlia Filtration Plant, Serial 49-080-48-4 (3), C. CD 2/21—ENR 2/27.

Bids Asked September 9

Tex., Kenedy—City, W. T. Scarborough, mayor, WW plant imprvs. $35,000. Plans deposit $25. Earl F. Miles, Cuero, engr.

LOW BIDDERS

Calif., Oakland—East Bay Municipal Utility Dist., 512 16 St., July 30, installing 4- to 8-in. c.i. watermains in Tracts 774 and 791, Spec. LS-393, from Stolte Inc., 8451 San Leandro St. **$35,545.** CD 7/22—ENR 7/24.

Mich., Lansing—Metropolitan Dist., 1245 S. Detroit St., Zone 21, July 29, water sys., South Side, from Fatore Constr. Co., Interzone St., Detroit, **$196,594*****East Side, from Omer Brandon & Son, 8120 E. Jefferson St., Detroit, **$57,040*****North Side, from Van Orden & Van Ess, 518 Murray Bldg., Grand Rapids, **$109,263.** CD 7/16—ENR 7/24.

Tenn., Huntingdon—City, July 30, WW imprvs., Sect. 1, from Layne Central Co., 1993 Chelsea Ave., Memphis***Sect. 2, from Chicago Bridge & Iron Co., Healey Bldg., Atlanta, Ga.***Sect. 3, from Volz Constr. Co., Ripley. Est. over **$100,000.** CD 7/10—ENR 7/17.

Tex., Beaumont—City, July 29, pump. station, Weiss Bluff, standby generator station and altering general station for Lawsons Crossing, from Stewart & Stevenson Services, Inc., 1718 Congress Ave., Houston. **$137,259,** est. $140,000***Weiss Bluff Canal and pipeline, incl. 3,000 ft. 48 in. rein.-con. pipe and 52,000 cu. yd. excav., from Streater Dredging Co., Beaumont, **$155,217,** est. $75,000***pumping station with and without auxiliary gas engine dr., from Allis-Chalmers Mfg. Co., 1719 McKinney St., Houston, **$36,423,** est. $75,000. CD 7/8—ENR 7/17.

Tex., Odem—City, F. Faun, mayor, cancelled bids to have been opened June 10, WW sys. imprvs., extens. **$52,000.** James V. Curnutte, 1615 Transit Tower, San Antonio, engr.

CONTRACTS AWARDED

Ala., Arab—City, c/o Mayor, WW imprvs., to E. N. Murray, Buena Vista, Ga. **$36,562.** Bids 7/31. CD 7/22—ENR 7/24.

Kan., Garnett—City, WW plant imprv., incl. water softener, to Carrothers Constr. Co., Paola. **$33,000.** Bids 7/30. CD 7/9—ENR 7/17.

Minn., Browns Valley—Village, G. Judish, clk., c.i. watermain extens., appurtenances, to Nodland & Alberg, Starbuck. **$89,551.** Bids 7/28. CD 7/16—ENR 7/24.

Mo., Pleasant Hill—City, water purification plant, day labor. **$65,000.** CD 6/17—ENR 6/19, under LB.

O., Cleveland—City, City Hall, watermain, appurtenances Grapeland Ave. from Triskett to Warren Rds., to Garfield Constr. Co., 4617 Warner Rd. **$49,151.** J. C. Wenrich, comr. engineering.

O., Coshocton—City, water treatment and softening plant, to Pitt Constr. Co., 1235 Washington Blvd., Pittsburgh, Pa. **$268,574.** Bids 7/8. CD 12/3/45—ENR 12/13/45.

O., Delaware—City, installing 23,000 ft. 2-to-12-in. c.i. water pipe, appurtenances to Christopher Constr. Co., 40 W. Gay St., Columbus. **$110,000.** Est. $120,000. Bids 6/25. Burgess & Niple, 568 E. Broad St., Columbus, engrs.

O., Toledo—City, 36 in. crosstown watermain in Bancroft St., to L. H. Harpin, W. Central Ave. **$68,715.** Est. $75,000. Bids 7/1. CD 7/23.

Ore., Eugene—City, City Hall, installing 11,850 ft. 42 in. steel pipe, day labor. **$60,000.** R. B. Boals, water supt. CD 7/16—ENR 7/24.

Tenn., Lafayette—Town, WW supply and distr. sys., to C. E. Moore Co., Greenwood. **$150,000.** Hart, Freeland & Roberts, 3 Natl. Bank Bldg., Nashville, engrs. and archts. Awarded 7/30. CD 11/5/45—ENR 11/29/45.

Tex., Corpus Christi—E. B. Cole, State Natl. Bank Bldg., c.i. waterlines and facilities. Owner builds. **$28,000.**

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks $22,500; other public works $40,000; industrial buildings $55,000; other buildings $205,000.

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	

Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

SEWERS, WASTE DISPOSAL

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked August 19

Neb., Lexington — City, sewer imprvs. $45,500.

Bids Asked August 20

Wis., Pepin—Village, primary disposal plant. Plans deposit $15. Davy Eng. Co., 502 Main St., La Crosse, engr. CD 11/28/45—ENR 12/13/45.

Bids Asked August 25

Ont., Port Hope—Mayor and Town Council, Port Hope, 5,340 lin. ft. 8 to 10 in. sanitary sewers, 22 manholes, 4 in. house drains to 75 houses for Town, A. Mark, clk. Approx. $45,000. Plans deposit $10. CD 1/5/45—ENR 1/11/45.

Bids Asked August 26

Tex., Mason—City, sanitary sewerage sys. $40,000. Plans deposit $25. H. R. F. Helland, 904 Frost Bank Bldg., San Antonio, engr. CD 1/4/46—ENR 1/21/46.

Bids Asked August 29

Ont., Kemptville—W. H. Finnerty, reeve, and Village Council, Kemptville, 23,500 lin. ft. 8- to 15-in. sanitary sewers for Village, R. J. Patterson, clk. Approx. $55,000. Plans deposit $15. Gore & Storrie, 1130 Bay St., Toronto, engrs.

Bids Asked September 17

Ia., Tipton—City, H. Mitchell, clk., sewage treatment plant complete with clarifiers, trickling filter, sludge digester, control bldg., pump station, sludge beds with appurtenances. Plans deposit $10. Currie Eng. Co., Webster City, engr. CD 8/16/45—ENR 9/6/45.

Bids Asked September 30

Calif., Los Angeles—Los Angeles Co., Hall of Records, sewers in Onacrest Dr., 2.69 mi. CI 1143. Plans deposit $10. Bids 6/17 rejected. CD 7/2—ENR 7/10, under LB.

Bids Asked

Tex., Houston—J. E. Leicher, 2402 Arbor St., sanitary and storm sewers. $40,000 each. Jack W. Knostman, 2017 W. Gray St., engr. and archt.

LOW BIDDERS

Calif., Stockton—City, City Hall, Aug. 4, south trunk line sewer consisting main line sewer in Charter Way from south sewage treatment plant to Edison St. and in Edison St. from Charter Way to Scotts Ave., from Stockton Constr. Co., Box 2087. **$193,636.** CD 7/21—ENR 7/24.

Ia., West Bend—City, A. W. Hansen, clk., received no bids July 28, laying 15,840 ft. 8 in. vitr. clay pipe, 24 ft. 8 in. c.i. pipe, sewers, 51 manholes, etc. Will readvertise. Currie Eng. Co., Webster City, engr.

Nev., Battle Mountain—Lander Co., Courthouse, Austin, Aug. 5, sewerage sys. and pump. and treatment plant, from George E. Miller, 111 Morrill Ave., Reno. **$62,145.** CD 7/9—ENR 7/17.

CONTRACTS AWARDED

Ia., Council Bluffs—City, J. E. Anderson, clk., 21 in. sewer from 23 and Broadway South to 6 Ave. and 27 St., south one block and east one block to 26 St., to Jack Boyne Constr. Co., 17 and Oak St. **$45,000.** CD 1/31—ENR 2/20.

Md., Hyattsville—Washington Sub-Sanitary Comn., Hamilton St., Aug. 1, Potomac River interceptor trunk sewer from D. C. line to Brookmont, from Intercounty Constr. Corp., 4720 Baltimore Ave. Montgomery Co., **$71,698.**

Mich., Lansing—Metropolitan Dist., 1245 Detroit St., Zone 12, July 29, from Howard E. Angell, 2024 Devonshire St., sewers. North Side **$259,664*****from Drainage Contractors Inc., 14375 Schaefer St., Detroit. West Side, **$142,712;** East Side, **$68,435;** South Side, **$337,532.** CD 7/18—ENR 7/24.

Minn., North St. Paul—Village, E. C. Johnson, secy. North St. Paul Pub. Utilities Comn., cancelled bids to have been opened Aug. 5, sewage treatment plant. **$138,538.** CD 7/9—ENR 7/17.

O., Cleveland Heights—City, 2953 Mayfield Rd., rejected bids July 12, 75x50 ft., brick, steel municipal incinerator. **$300,000.** CD 6/17—ENR 6/19.

O., Toledo—City, storm sewer Bo. 1638-A, Dist. 58, Point Place, to Verderber Constr. Co., 3007½ Monroe St. **$89,274.** Bids 7/29, awarded 8/1. CD 3/16/44—ENR 4/6/44.